

Trend Study 17-41-02

Study site name: Upper Sheep Creek.

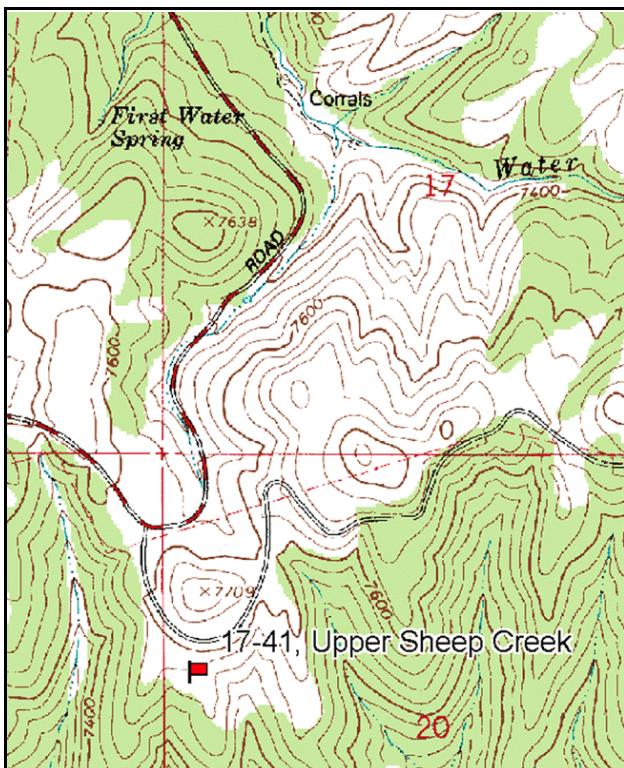
Vegetation type: Mountain Brush.

Compass bearing: frequency baseline 168 degrees magnetic.

Frequency belt placement: line 1 (11 & 95 ft), line 2 (34 ft), line 3 (59 ft), line 4 (71 ft).

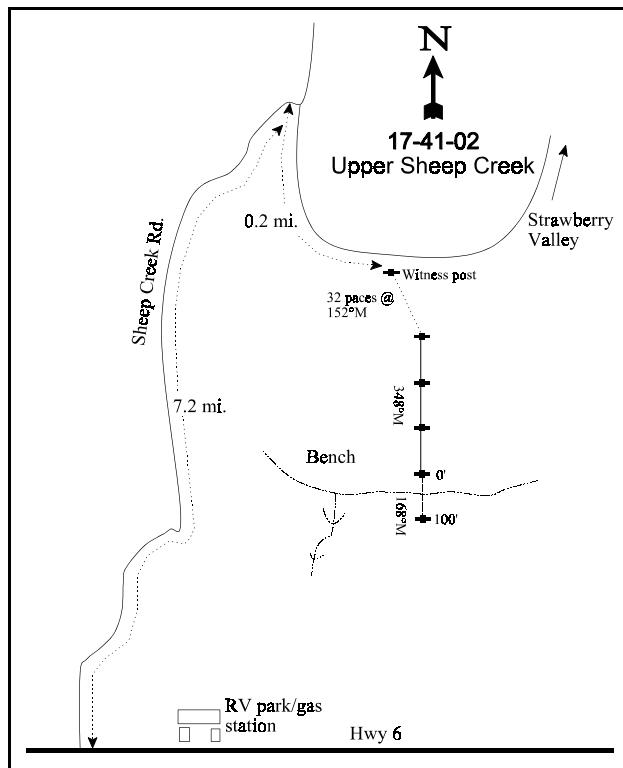
LOCATION DESCRIPTION

Beginning at the intersection of Sheep Creek Road and Rays Valley, proceed northerly up Rays Valley Road for 2.40 miles to an intersection (0.20 miles past a cattle guard). Turn right at the intersection and proceed easterly for 0.60 miles to another intersection. Turn right at the intersection and proceed 0.10 miles to a "Y" in the road. Take the left side of the "Y" and proceed another 0.10 miles to a faint road to the right. Turn right on the faint road and proceed 0.10 miles to a green steel "T" fencepost to the left. From the stake, the 0-foot stake of the baseline is 32 paces away at an azimuth of 152 degrees magnetic. The study is marked by green steel "T" fenceposts approximately 12 to 18 inches in height.



Map Name: Ray's Valley

Township 9S, Range 5E, Section 20



Diagrammatic Sketch

GPS: NAD 27, UTM 12S 4430389 N 476201 E

DISCUSSION

Upper Sheep Creek - Trend Study No. 17-41

The Upper Sheep Creek study is located near the upper limit of deer and elk winter range at 7,500 feet in elevation. The elevation makes it unlikely in most winters that any big game are on site after mid-November. Some early spring use probably occurs as the snow melts. Wildlife are likely more concentrated near the edge of the ridge where the sun and wind can help keep the snow at a more shallow depth. The study area drains into Sheep Creek, but is near the divide with First Water Creek. Slope varies from nearly level to 15% with a south aspect. The site supports a mountain brush community with mountain big sagebrush and bitterbrush being dominant. In 1997, deer pellet groups were moderately abundant, with light use by elk and cattle. A pellet group transect read along the study baseline in 2002 estimated 46 deer, 3 elk, and 13 cow days use/acre (114 ddu/ha, 7 edu/ha, and 32 cdu/ha). Deer and elk pellet groups appear to be from fall and spring use, while all cattle pats are from the summer of 2001. Cattle will likely graze this site later this summer (2002).

Soil textural analysis indicates a clay soil derived from limestone or shale. Soil pH was neutral (7.2) with an effective rooting depth of almost 13 inches. Many similar sites in the Sheep Creek drainage exhibit considerable erosion. The Sheep Creek drainage is also prone to large land "slumps" or slides. The study area appears fairly stable with good vegetation and litter cover. There is currently no erosion apparent and the erosion condition class was determined to be stable in 2002.

Browse composition is mixed with excellent production. Mountain big sagebrush and bitterbrush provide most of the shrub cover. They combined to account for 54% of the total shrub cover in 1997, increasing to 57% in 2002. Other preferred shrubs include serviceberry, sticky leaf low rabbitbrush, Wyeth eriogonum, Woods rose and snowberry.

Mountain big sagebrush density was estimated at about 2,200 plants/acre in 1997 and 2002. Utilization was light to moderate, with most plants showing good vigor. Annual leader growth averaged 1.6 inches in 2002. As reported in 1983, bitterbrush has a prostrate growth form with a strong layering growth habit. Density is stable at about 1,600 plants/acre. Utilization was moderate to heavy in 1997 and 2002, yet vigor has remained good. The population has maintained a mostly mature age structure since 1983. Although annual leader growth was poor in 2002 averaging only about 1 inch, many of the plants were flowering.

Saskatoon serviceberry provides some additional preferred browse forage. It had an estimated density of 800 plants/acre in 2002. Utilization was moderate to heavy but vigor was good and young recruitment was excellent. Density was slightly lower than that estimated in 1983 due to the much larger sample used 1997 and 2002. Annual leaders were difficult to find on serviceberry plants in 2002. Snowberry provided 15% and 13% of the total shrub cover in 1997 and 2002 respectively. It showed little use with a density of 5,420 plants/acre in 2002.

The herbaceous understory is diverse yet does not produce a lot of forage due to the abundant shrub cover. Sum of nested frequency for grasses has increased since 1983 with significant increases in bluebunch wheatgrass, muttongrass, smooth brome, Kentucky bluegrass, and Letterman's needlegrass between 1983 and 1997. The principal species are all perennials with cheatgrass occurring only occasionally. No significant utilization was noted in 1997 or 2002, but the site was read before cattle used the site. Nested frequency for forbs increased greatly between 1983 and 1997. More important forbs on the site include arrowleaf balsamroot, penstemon species, and Pacific aster. Overall forage quality of the forb component is good. With drought conditions during the 2002 reading, sum of nested frequency for perennial grasses and forbs decreased.

1983 APPARENT TREND ASSESSMENT

Overall soil conditions appear stable. Although some sheet erosion and gullying is occurring on the steeper slopes, it is of manageable proportions. Vegetative composition is dominated by a lightly used and vigorous mixture of browse species. Grasses and forbs are subordinate to shrubs, but are still important for the additional forage diversity and soil protection they provide.

1997 TREND ASSESSMENT

Soil trend is stable with abundant vegetative and litter cover to prevent erosion. Browse trend is stable with several palatable species present. Age structure for browse species appear stable with little decadency apparent. Both grass and forb nested frequency values have increased greatly since 1983. This leads to an upward herbaceous understory trend.

TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - up (5)

2002 TREND ASSESSMENT

Trend for soil is stable even with a slight decline in litter cover and a slight increase in bare soil. There is still more than adequate protective ground cover to prevent most erosion and the erosion condition class was determined to be stable. Trend for browse is stable for the key species, mountain big sagebrush and antelope bitterbrush. Density of both species has remained stable since 1997. Utilization continues to be moderate to heavy yet vigor is still good on most plants. Drought conditions combined with competition have caused an increase in the number of decadent sagebrush (13% to 30%). Drought conditions in 2001 and 2002 have also effected the herbaceous understory. Sum of nested frequency for perennial grasses have declined slightly, although the sum of nested frequency for perennial forbs has declined more sharply. Trend for the herbaceous understory is considered down slightly.

TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - down slightly (2)

HERBACEOUS TRENDS --

Herd unit 17 , Study no: 41

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'83	'97	'02	'83	'97	'02	'97	'02
G	Agropyron spicatum	a84	b164	178	41	56	62	5.03	5.61
G	Bromus inermis	a-	b45	b50	-	14	17	1.74	2.26
G	Bromus tectorum (a)	-	6	3	-	2	1	.01	.03
G	Carex spp.	2	1	-	2	1	-	.03	-
G	Koeleria cristata	-	2	4	-	1	2	.03	.03
G	Melica bulbosa	a-	b12	a-	-	6	-	.15	-
G	Oryzopsis hymenoides	2	4	4	1	2	3	.16	.05
G	Phleum pratense	-	9	-	-	3	-	.16	-
G	Poa fendleriana	a-	c107	b53	-	43	27	3.47	.88

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'83	'97	'02	'83	'97	'02	'97	'02
G	Poa pratensis	a-	b13	c26	-	5	12	.45	.75
G	Poa secunda	b19	a1	a3	9	1	1	.00	.03
G	Sitanion hystrrix	1	-	-	1	-	-	-	-
G	Stipa comata	-	9	-	-	4	-	.36	-
G	Stipa lettermani	a-	b15	b24	-	6	12	.22	.62
Total for Annual Grasses		0	6	3	0	2	1	0.00	0.03
Total for Perennial Grasses		108	382	342	54	142	136	11.82	10.25
Total for Grasses		108	388	345	54	144	137	11.83	10.28
F	Achillea millefolium	-	5	3	-	2	1	.04	.00
F	Agoseris glauca	a-	b32	a6	-	12	3	.16	.04
F	Alyssum alyssoides (a)	-	-	11	-	-	4	-	.04
F	Allium spp.	a1	c107	b49	1	43	19	1.06	.14
F	Androsace septentrionalis (a)	-	2	-	-	1	-	.00	-
F	Arabis spp.	-	-	3	-	-	2	-	.06
F	Astragalus beckwithii	a-	b10	c31	-	5	16	.22	.63
F	Aster chilensis	9	19	34	6	7	13	.63	1.17
F	Astragalus convallarius	-	-	1	-	-	1	-	.03
F	Aster spp.	-	8	-	-	3	-	.04	-
F	Astragalus spp.	a-	b48	a-	-	19	-	1.56	-
F	Balsamorhiza sagittata	7	14	8	4	8	5	1.12	1.13
F	Castilleja linariaefolia	-	2	-	-	1	-	.15	-
F	Calochortus nuttallii	a-	b18	a-	-	7	-	.08	-
F	Chaenactis douglasii	b13	a-	a3	7	-	1	-	.00
F	Cirsium spp.	3	9	4	1	4	2	.16	.04
F	Comandra pallida	a16	b37	a15	8	16	7	.22	.08
F	Collinsia parviflora (a)	-	87	92	-	34	34	.27	.39
F	Cynoglossum officinale	-	-	1	-	-	1	-	.00
F	Eriogonum ovalifolium	-	-	6	-	-	2	-	.01
F	Eriogonum umbellatum	9	3	1	4	1	1	.15	.03
F	Galium aparine (a)	-	17	7	-	7	3	.08	.01
F	Hackelia patens	3	14	5	1	7	3	.37	.04
F	Lappula occidentalis (a)	-	-	5	-	-	2	-	.03
F	Lygodesmia spp.	-	-	4	-	-	2	-	.03
F	Machaeranthera canescens	6	4	2	2	3	2	.01	.01
F	Orobanche fasciculata	a-	b30	a-	-	11	-	.64	-
F	Orthocarpus tolmiei (a)	a12	b55	b57	6	22	26	1.28	.37
F	Penstemon humilis	a7	a7	b28	3	3	15	.09	.59
F	Penstemon spp.	a21	ab43	b62	11	19	26	1.00	1.81

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'83	'97	'02	'83	'97	'02	'97	'02
F	<i>Phlox longifolia</i>	a-	b38	b58	-	15	21	.15	.30
F	<i>Polygonum douglasii</i> (a)	-	b49	a-	-	18	-	.16	-
F	<i>Senecio integerrimus</i>	a-	c58	b23	-	29	10	.48	.25
F	<i>Sphaeralcea coccinea</i>	-	-	3	-	-	1	-	.15
F	<i>Streptanthus cordatus</i>	1	-	4	1	-	3	-	.06
F	<i>Stanleya pinnata</i>	-	1	-	-	1	-	.00	-
F	<i>Viola</i> spp.	a-	b41	a7	-	17	4	.13	.04
F	<i>Zigadenus paniculatus</i>	a-	b14	a2	-	7	1	.08	.03
Total for Annual Forbs		12	210	172	6	82	69	1.81	0.86
Total for Perennial Forbs		96	562	363	49	240	162	8.61	6.75
Total for Forbs		108	772	535	55	322	231	10.43	7.61

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --

Herd unit 17 , Study no: 41

T y p e	Species	Strip Frequency		Average Cover %	
		'97	'02	'97	'02
B	<i>Amelanchier alnifolia</i>	23	24	1.68	2.04
B	<i>Artemesia tridentata vaseyana</i>	72	64	12.18	17.21
B	<i>Chrysothamnus depressus</i>	0	1	-	-
B	<i>Chrysothamnus viscidiflorus</i> <i>viscidiflorus</i>	73	74	7.76	9.29
B	<i>Eriogonum heracleoides</i>	26	27	1.19	1.06
B	<i>Juniperus osteosperma</i>	1	3	.00	1.63
B	<i>Mahonia repens</i>	31	41	1.91	1.44
B	<i>Purshia tridentata</i>	53	54	12.17	14.23
B	<i>Rosa woodsii</i>	14	19	.99	.69
B	<i>Symphoricarpos oreophilus</i>	68	78	6.60	7.40
Total for Browse		361	385	44.53	55.04

CANOPY COVER -- LINE INTERCEPT

Herd unit 17 , Study no: 41

Species	Percent Cover	
	'97	'02
Amelanchier utahensis	-	2.42
Artemisia tridentata vaseyana	-	17.33
Chrysothamnus viscidiflorus viscidiflorus	-	9.50
Eriogonum heracleoides	-	.58
Juniperus osteosperma	-	2.25
Mahonia repens	-	1.75
Purshia tridentata	-	18.75
Rosa woodsii	-	.58
Symphoricarpos oreophilus	-	7.42

Key Browse Annual Leader Growth

Herd unit 17 , Study no: 41

Species	Average leader growth (in)
	'02
Artemisia tridentata vaseyana	1.6
Purshia tridentata	0.9

BASIC COVER --

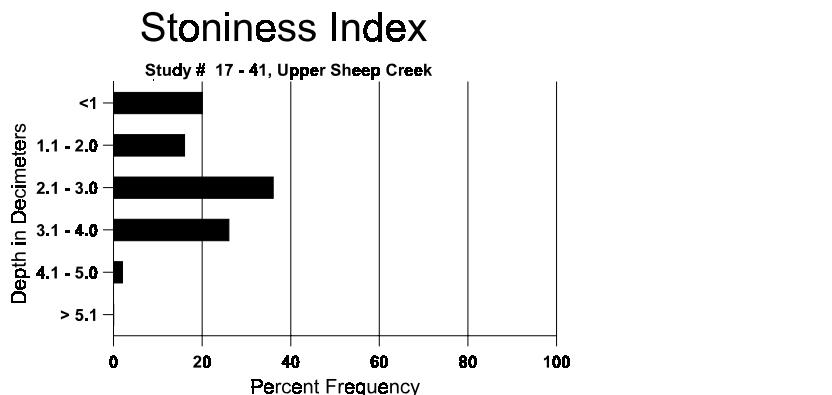
Herd unit 17 , Study no: 41

Cover Type	Nested Frequency		Average Cover %		
	'97	'02	'83	'97	'02
Vegetation	356	325	4.25	55.15	59.53
Rock	96	106	7.50	2.80	4.45
Pavement	142	119	16.50	4.88	2.00
Litter	396	384	53.50	54.82	47.53
Cryptogams	5	5	0	.18	.04
Bare Ground	180	201	18.25	10.18	13.63

SOIL ANALYSIS DATA --

Herd Unit 17, Study no: 41, Upper Sheep Creek

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
12.8	41.6 (16.0)	6.6	31.4	22.7	45.8	4.3	17.6	384.0	.5



PELLET GROUP FREQUENCY --

Herd unit 17 , Study no: 41

Type	Quadrat Frequency	
	'97	'02
Rabbit	-	2
Elk	5	3
Deer	33	23
Cattle	6	2

Pellet Transect	
Pellet Groups per Acre	Days Use per Acre (ha)
02	02
-	-
35	3 (7)
600	46 (114)
157	13 (32)

BROWSE CHARACTERISTICS --

Herd unit 17 , Study no: 41

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Amelanchier alnifolia																	
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	3	-	-	4	-	-	-	-	-	7	-	-	-	140		7
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	83	2	-	-	-	-	-	-	-	-	2	-	-	-	133		2
	97	3	-	-	1	-	-	-	-	-	4	-	-	-	80		4
	02	8	3	-	2	-	-	1	-	-	14	-	-	-	280		14
M	83	-	17	3	-	-	-	-	-	-	17	-	3	-	1333	30 20	20
	97	11	2	-	2	6	1	-	1	-	23	-	-	-	460	30 35	23
	02	2	7	2	2	7	-	2	-	-	22	-	-	-	440	33 33	22
D	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	02	-	-	3	1	-	-	-	-	-	2	-	-	2	80		4
X	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	40		2
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	77%			14%			14%				-63%					
	'97	30%			04%			00%				+33%					
	'02	43%			13%			05%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	1466	Dec:	0%		
												'97	540		0%		
												'02	800		10%		
Artemisia tridentata vaseyana																	
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	02	-	-	-	1	-	-	-	-	-	1	-	-	-	20		1
Y	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	10	-	-	1	-	-	-	-	-	11	-	-	-	220		11
	02	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3
M	83	13	2	-	-	-	-	-	-	-	8	-	7	-	1000	29 35	15
	97	59	14	5	1	4	-	-	-	-	83	-	-	-	1660	31 41	83
	02	52	14	4	4	-	-	-	-	-	73	-	1	-	1480	31 37	74
D	83	1	1	-	-	-	-	-	-	-	2	-	-	-	133		2
	97	7	5	-	1	1	-	-	-	-	6	-	-	8	280		14
	02	21	9	-	3	-	-	-	-	-	23	-	-	10	660		33
X	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	200		10
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	160		8
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	18%			00%			41%				+48%					
	'97	22%			05%			07%				+ 2%					
	'02	21%			04%			10%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	1133	Dec:	12%		
												'97	2160		13%		
												'02	2200		30%		

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
<i>Cercocarpus montanus</i>																	
M	83	-	1	-	-	-	-	-	-	-	1	-	-	-	66	67	77
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	100%			00%			00%									
	'97	00%			00%			00%									
	'02	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	66	Dec:	-		
												'97	0	-	-		
												'02	0	-	-		
<i>Chrysothamnus depressus</i>																	
M	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20	6	15
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	00%			00%			00%									
	'97	00%			00%			00%									
	'02	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	0	Dec:	-		
												'97	0	-	-		
												'02	20	-	-		
<i>Chrysothamnus viscidiflorus viscidiflorus</i>																	
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	-
Y	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	97	4	-	-	1	-	-	-	-	-	5	-	-	-	100	-	-
	02	7	-	-	1	-	-	-	-	-	8	-	-	-	160	-	-
M	83	45	-	-	-	-	-	-	-	-	45	-	-	-	3000	18	18
	97	197	-	-	48	-	-	-	-	-	245	-	-	-	4900	13	19
	02	314	4	-	59	-	-	28	-	-	405	-	-	-	8100	12	15
D	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	02	19	-	-	4	-	-	-	-	-	16	-	-	7	460	-	-
X	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	00%			00%			00%				+40%					
	'97	00%			00%			00%				+43%					
	'02	.91%			00%			02%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	3000	Dec:	0%		
												'97	5000	-	-		
												'02	8720	-	-		

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Eriogonum heracleoides																	
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	2	-	-	1	-	-	-	-	-	3	-	-	-	60		3
	02	4	-	-	-	-	-	-	-	-	4	-	-	-	80		4
M	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	97	38	-	-	1	-	-	-	-	-	39	-	-	-	780	6	11
	02	64	-	-	12	-	-	-	-	-	77	-	-	-	1540	8	11
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
	'83	00%			00%			00%									
	'97	00%			00%			00%			+48%						
	'02	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)										'83	0	Dec:	-				
										'97	840		-				
										'02	1620		-				
Juniperus osteosperma																	
Y	83	1	-	-	-	-	-	-	-	-	-	1	-	-	66		1
	97	-	-	-	1	-	-	-	-	-	1	-	-	-	20		1
	02	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
M	83	2	-	-	-	-	-	-	-	-	-	2	-	-	133	55	41
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	115	105
	02	1	-	-	1	-	-	-	-	-	2	-	-	-	40	-	2
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
	'83	00%			00%			00%			-90%						
	'97	00%			00%			00%			+67%						
	'02	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)										'83	199	Dec:	-				
										'97	20		-				
										'02	60		-				

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
<i>Mahonia repens</i>																	
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	83	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1
	97	24	-	-	5	-	-	-	-	-	29	-	-	-	580		29
	02	2	-	-	2	-	-	-	-	-	4	-	-	-	80		4
M	83	13	-	-	-	-	-	-	-	-	13	-	-	-	866	4	13
	97	111	-	-	42	-	-	-	-	-	153	-	-	-	3060	4	153
	02	176	-	-	50	-	-	39	-	-	241	17	7	-	5300	3	265
D	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	02	4	-	-	-	-	-	1	-	-	3	-	-	2	100		5
X	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	40		2
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	00%			00%			00%				+74%					
	'97	00%			00%			00%				+34%					
	'02	00%			00%			03%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	932	Dec:	0%		
												'97	3640		0%		
												'02	5480		2%		
<i>Purshia tridentata</i>																	
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	3	-	-	-	-	-	2	-	-	5	-	-	-	100		5
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	1	1	-	-	1	-	-	-	-	3	-	-	-	60		3
	02	7	-	-	1	-	-	1	-	-	9	-	-	-	180		9
M	83	8	8	-	-	-	-	-	-	-	16	-	-	-	1066	19	16
	97	24	19	20	3	6	3	-	-	-	73	2	-	-	1500	20	75
	02	2	45	22	1	-	1	1	-	-	73	-	-	-	1460	23	73
D	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	1	1	-	-	-	-	-	-	-	2	-	-	-	40		2
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
X	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	50%			00%			00%				+33%					
	'97	34%			30%			00%				+ 2%					
	'02	55%			28%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	1066	Dec:	0%		
												'97	1600		3%		
												'02	1640		0%		

A G R E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Rosa woodsii																	
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	-	1	-	-	-	-	-	1	-	-	-	20		1
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	83	52	-	-	-	-	-	-	-	-	42	-	10	-	3466		52
	97	8	-	-	6	-	-	-	-	-	13	-	-	1	280		14
	02	6	-	-	-	-	-	-	-	-	6	-	-	-	120		6
M	83	4	-	-	-	-	-	-	-	-	4	-	-	-	266	30 10	4
	97	16	-	-	11	-	-	-	-	-	26	-	-	1	540	11 12	27
	02	27	-	-	2	-	-	-	-	-	29	-	-	-	580	14 15	29
D	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	00%			00%			18%				-77%					
	'97	00%			00%			05%				-17%					
	'02	00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	3732	Dec:	0%		
												'97	840		2%		
												'02	700		0%		
Syphoricarpos oreophilus																	
S	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3
	02	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
Y	83	14	-	-	-	-	-	-	-	-	14	-	-	-	933		14
	97	21	-	-	7	-	-	-	-	-	28	-	-	-	560		28
	02	31	-	-	3	-	-	1	-	-	35	-	-	-	700		35
M	83	64	13	-	-	-	-	-	-	-	74	-	3	-	5133	19 17	77
	97	141	-	-	49	-	-	-	-	-	190	-	-	-	3800	15 23	190
	02	149	-	-	69	3	-	11	-	-	232	-	-	-	4640	14 20	232
D	83	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	-	-	1	-	-	-	-	-	-	-	-	-	1	20		1
	02	4	-	-	-	-	-	-	-	-	4	-	-	-	80		4
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>					
	'83	14%			00%			03%				-28%					
	'97	00%			.45%			.45%				+19%					
	'02	01%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'83	6066	Dec:	0%		
												'97	4380		0%		
												'02	5420		1%		